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State Manual Training Normal School

THE TECHNE

Life without Labor is a Crime, Labor without Art and the Amenities of Life is Brutality.—Ruskin

SEPTEMBER-OCTOBER, 1928

"I believe that education of youth is the finest of the fine arts and that my task as interpreter of life to youth is a great trust upon me. I believe in the power of example. I believe in co-operation with all humanizing agencies. I believe in patience and perseverance and faith in the final outcome of education and of life."

—Richard H. Piez.

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The Techne publishes, for the most part, papers on educational subjects, though articles on closely related fields are also used. Part of these papers set forth the results of research; others aim at interpretation of current developments. Though some of the discussions will interest the specialist, it is hoped that in every number there will be something useful for the average teacher.

The Techne is sent free to alumni, teachers, school officials, libraries, and, on request, to any person interested in the progress of education.

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Teacher Training at Kansas State Teachers College of Pittsburg

By H. C. Pryor, Director of Training

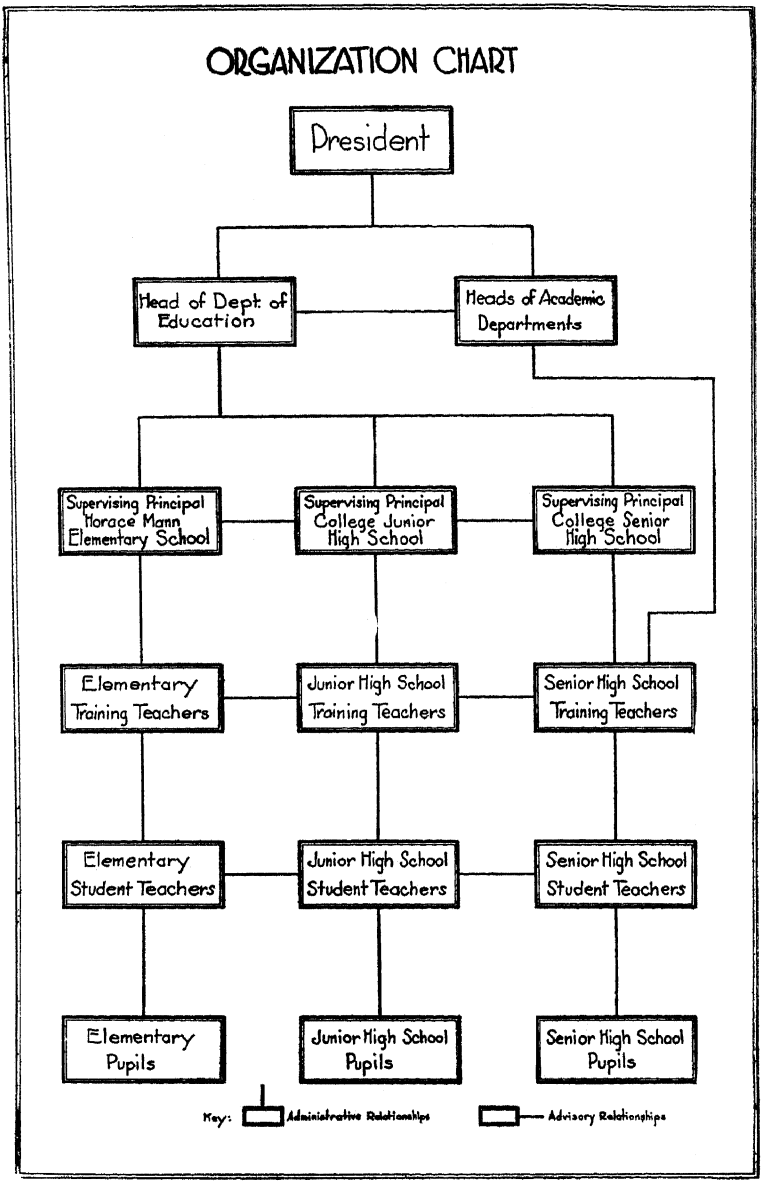
So much might be said concerning the Training School at Kansas State Teachers College, Pittsburg, that it seems best to limit the discussion to two points, organization and supervised teaching.

ORGANIZATION

Teacher-training institutions carry on the practical side of their work in various ways. These may be reduced to perhaps three common plans. Under one plan the training school is almost entirely separate from the rest of the institution and has its own director and staff of training teachers who have little in common with the other members of the faculty. Under the second plan the same person is director of training and head of the department of education. In this case the training school is a kind of adjunct to the department of education and is used little by other departments. The third plan is one under which the training school is in fact the hub of the institution. Interdepartmental relationships are close. While the training school is placed under the direction of the department of education to insure unification of its activities, all departments are encouraged to use it as a laboratory. The Kansas State Teachers College of Pittsburg makes use of the last plan.

This plan is the most desirable of the three, but it must be administered carefully if it is to be a success. We believe that it is the best plan because it assumes that each department has something to contribute and encourages each to do its bit. Not all departments contribute equally to all levels of teacher training, i. e. to the elementary, junior and senior high school levels. Some departments, such as physical education for women, home economics, and music, reach all grades from the kindergarten to the senior high school. Other departments reach students of the different levels in varying degrees. For example, the commercial department offers courses in the senior high school but reaches the junior high school and the elementary school only through the subject of penmanship. The departments of physical and chemical sciences, biology, and others reach both junior and senior high school directly but affect the elementary school only indirectly through their courses for elementary teachers. The ultimate goal is to have every department contribute maximally to all levels of the training school.

If any training school is to be successful in large measure a definite plan of organization is necessary. It must be understood by all concerned, if the work of different individuals is to be co-ordinated into a harmoniously working whole. The accompanying organization chart is an attempt to show, graphically, first, the relationships existing between the department of education and professional training and other departments in the college, and, second, how the latter work through the former in carrying on the work of teacher training. The reader will note that the horizontal lines indicate co-operative relationships


ORGANIZATION CHART
President
Head of Dept. of Education
Heads of Academic Departments
Supervising Principal Horace Mann Elementary School
Supervising Principal College Junior High School
Supervising Principal College Senior High School
Elementary Training Teachers
Junior High School Training Teachers
Senior High School Training Teachers
Elementary Student Teachers
Junior High School Student Teachers
Senior High School Student Teachers
Elementary Pupils
Junior High School Pupils
Senior High School Pupils
Key: Administrative Relationships
Advisory Relationships

existing between the different groups concerned, i. e., heads of departments, supervising principals, supervising teachers, student teachers. The vertical lines indicate administrative or supervisory relationships.

According to this plan responsibility for the administration of the training school is centered in the Director of Training, who is himself directly responsible to the President. Some training school problems are discussed in meetings of the Council, a group consisting of heads of the different departments. Many problems are discussed in interviews between the Director of Training and the heads of the different departments. The responsibility for their execution is left to the Director of Training. This results in a high degree of uniformity in matters that can be handled in such a way and still makes possible the exercise of individual originality and initiative on the part of different departments in matters peculiar to them.

The Director of Training is ex-officio a member of several committees responsible for working out different training school problems. Among these are the committees on health and curriculum construction. The former is interdepartmental, including representatives from the departments of biology, physical education for men and women, home economics and education. This committee has considered two major problems during the past year: First, what training should prospective teachers receive to prepare them best for health work in the schools; second, what should be included in a health program for children in the several grades from the kindergarten through senior high school? The second problem is being worked out with the assistance of sub-committees consisting of the three supervising principals and their staffs. This year a second committee on social sciences and a third on English are working on the content of such courses for all levels in the training school. Each committee consists of a representative from each of the three levels of the training school who looks out for the interest of his particular group.

The training department is organized on the kindergarten-six-three-three plan, with a supervising principal in charge of each school. The principals together with the Director of Training constitute a council in which teacher training problems are discussed and policies developed. This group serves as a kind of clearing house for all matters pertaining to the training school, a function for which it is particularly well fitted because both the Director and the principals are in close personal contact with the school at all times and have an opportunity to study its problems at first hand.

Periodical conferences of supervising teachers in the elementary junior or senior high schools are held to discuss their problems. Conferences of special subject supervisors in art, music, penmanship, etc., are held to discuss problems which affect all of these departments in the training school.

Through conferences the student teachers keep in close touch with one another and with their respective supervising teachers and princ pals. Infrequent conferences called by the Director of Training bring

together all of the student teachers and the training school staff. The latter serve somewhat to unify the whole group and to help the members to think and act collectively on their common problems.

While not all of the training school pupils can be brought together easily at any one time, an effort is being made to promote better class and school spirit by holding grade assemblies and assemblies for kindergarten-elementary and junior-senior high school pupils. At these meetings not only supervising principals and teachers but also student teachers, whenever their schedules permit, are present. This plan serves at least a twofold purpose, the first being to unify the groups concerned and the second to give student teachers some experience in preparing for and conducting the programs.

The big problem of the training school administration has been to unify the work and still to give large opportunity for initiative on the part of the different instructors concerned. While there is still something to be desired, much progress has been made and the immediate future promises much in the way of additional accomplishment.

SUPERVISED TEACHING

Training schools in general serve a double purpose. First, they serve as laboratories for the preparation of prospective teachers. Second, they provide for the education of a limited number of pupils in the kindergarten-elementary and high school grades. The most important professional courses in the teacher training program is supervised teaching* or practice teaching, as it is generally known.

In the early days of the training school the primary emphasis was placed on teacher training. The pupils taught or "practiced on" were the unfortunate victims and both parties to the arrangement suffered much. With the development of a new philosophy of education the child has become the "center of gravity" in training schools as well as in other schools. This has resulted in a restatement of purpose mentioned above, a restatement which places the child first. Progressive teacher-training institutions have taken the stand that the children taught are of primary importance and that no opportunity should be neglected to train them effectively. This places the emphasis where it belongs. The training of teachers is a very important function of the training school, but it can be accomplished only if the child's needs are well provided for.

Our slogan may be stated somewhat as follows: Only through proper child training can we secure effective, well-balanced teacher training. This is being emphasized, constantly, in all grades. An effort is being made to give student teachers this point of view even at the risk of making them feel that the demands of the course in supervised teaching are too exacting.

The student may feel that it is only another course which may be carried without much regard for such minor matters as regularity of attendance, preparation, and the like. He may look at the situation

*The term "supervised teaching" is being used because it implies more carefully directed work than "practice teaching."

from an individualistic viewpoint and feel that only his interests should be considered. The course differs from others, however, in that it demands of the student a social as well as an individual responsibility and requires him to consider the interests of others more than his own. He must realize that he can serve his own interests best only by serving well the group that he is helping to teach. He must attack the work in the same spirit in which he would attack later a regular teaching situation in which he would be held fully accountable for the welfare of the children taught.

What does this imply? Among other things, it implies self-denial, staying with the class rather than "cutting" to satisfy some personal desire, working sometimes when not feeling well, exactness in reports and other routine work, and more careful preparation and planning for that which the student himself will teach. The student teacher must meet all of these demands if he is to receive commendation as a teacher.

While we are looking out for the interests of the pupils, we must not lose sight of the student teacher and his needs. Each one is an individual problem and must be treated as such, if he is to obtain the maximum benefit from the course. As far as practicable, the tasks of each student must be adapted to his needs and abilities.*

The aim of the training school has been not only to develop a better course in supervised teaching, one which secures effective training of student teachers through looking out for the best interests of the child taught, but also to develop a healthier attitude toward it. Much progress has been made along both lines, especially in the elementary grades where closer supervision is possible because all work is centralized in one building. Much remains to be done as will always be the case so long as teaching is a growing profession. We may hope to attain our ideal only when a large majority, if not all, of the students who enroll for the course do so with the purpose of becoming better teachers and worthier members of the profession.

*This has been worked out best, so far, in the Horace Mann Elementary School

What is a Society?

By L. M. Collins, Professor of Sociology.

The term *society* is often used very loosely. Sometimes it is used as a synonym for the word *mankind* or the word *humanity*. Often it is used to indicate leisure class pretenses. It is quite frequently used instead of the word *association* or the word *organization*, as "The Society for the Friendless," or "The Society for the Prevention of Cruelty to Children." Then, too, it is often used to indicate various groups, as "American Society," "German Society," and "New England Society," or to indicate various group aims, as the "Despotic," "Idealistic," "Approbational," "Authoritative," "Conspirital," or "Contractional" societies.

All group life is nicely interwoven into a system which we call society—a system for thinking together, and for doing things together for the achievement of common ends. Society, then, is the product of association; it is the fruit of group life. Society constitutes the whole fabric of group life and inter-relationships—it is our social inheritance. We are members of society to the same extent that we are affected by the utmost expansion of group life. "Self and society are twin-born, we know one as immediately as we know the other, and the notion of a separate and independent ego is an illusion." We cannot, therefore, conceive of society as something apart from individuals and groups; but we cannot thereby conclude that each individual and group is a true reflection of the whole of society.

One author likens society to a picture made up of so many square inches of painted canvas. Each square inch of canvas represents an individual or group. If we take up and examine these bits of canvas one at a time we would see that each reflects something that is characteristic of the picture; but the whole theme of the painting, its organization and structure, is not thus made apparent. We must view the canvas as a whole, each square in its proper place, to understand fully and appreciate what it is all about. Thus, by centering our attention upon individuals and groups, we cannot get an accurate view of the system and organization which make up society.

When we view society in this large way we see that it is composed of four outstanding and closely interwoven fundamentals: groups, uniformities, standards and institutions. The chief difference between the complex society of today and the society of the past is to be found in the changes which time and progress have made in these fundamentals. Furthermore, it is in these fundamentals that the roots of the present-day social problems are embedded. Consequently, if we are to understand fully the nature and scope of the great problems of society today, we must study them in relation to these fundamentals of society.

The most conspicuous of these four fundamentals of society is the social groups. In the past, we have grouped people according to race, language, nationality, religion and station. However important

these bases of grouping were in the past, they are of little and decreasing importance today. The groups which matter most today are the interest groups. It is the expanding and intensifying of the interest groups which at once furnish us with cause for our highest hopes and our gravest doubts regarding the outcome of the great changes taking place in society today. They give us cause for apprehension, because group conflict is waged with more devastating weapons than were known to the men of any other day.

Society tends to produce uniformities and standards, to spread culture and achievement so that all its members are benefited by it. Interest groups are the greatest disseminators of uniformities and standards. With each expansion of groups, with each advancement in science and knowledge, the strain to wipe out cultural differences and attain the highest standards for all becomes greater. How quickly the benefits of science are disseminated is illustrated by the rapid spread and use of the new discoveries in the field of medicine. Inventions, too, spread with amazing rapidity. In order to appreciate how the great advances in science, invention, discovery, and thought have spread, we need only to compare the standard of living of the working man's family today with the standard of living of the same class of working man's family of but a generation ago.

And, as I have indicated, the struggle to maintain and to advance that standard of living becomes increasingly great. But the aim of society is ever directed to the task of bringing uniform advantages to all. Hence, wherever a family, a neighborhood, or a community is "backward" or not in a position to enjoy these uniform advantages, social agencies are directed to the task of removing the obstacles and developing the resources so that "normal life" may be the possession of all. The recognition of this fact has given rise to a new profession, social work, which means scientifically developing and adjusting human relations in a way that will secure normal life to individuals and communities and encourage individual and community progress.

The last of the fundamentals of society, namely, institutions, represents the crystallization of methods of guiding and controlling social relationships. An institution is an established phase of the public mind. It is firmly rooted in the past and tends to test conduct and social relations by the dictates of precedent. One might say that institutions are the rigid, bony skeleton about which the flesh of our social system grows. Society could no more function without them than the muscles of our bodies could function without our bones.

There are many social institutions, but in general they group themselves about a few pivotal fields of human relations. Thus marriage, the home, and divorce are some of the most important institutions pertaining to the family and the regulation of relations of the sexes; the church is the outstanding institution for instruction and service in the field of religion; around the function of government are clustered numerous institutions, such as the courts, the jails, and the prisons; in the realm of culture are the schools, the libraries, the museums, the

newspapers, and the universities; in the field of economic relations are the institutions of money, banking, stock and produce exchanges, and markets; in the field of health and welfare is an ever-increasing number of institutions, such as hospitals, clinics, health centers, orphanages, homes for the aged, and colonies for the feeble-minded: and in the field of recreation there is also an increasing number of institutions, such as baseball, parks, play grounds, moving picture theaters, vaudeville theaters, and dance halls.

It is at once apparent that the study of social problems must concern itself to a large extent with those conditions and changes which affect the social institutions. It is also quite evident that if one is to understand the source of our present day problems, it is quite necessary to make a careful study of society, and analyze the constituent parts of the sociological group.

I may conclude this article by answering the question, What is a society? "Any group or number of human individuals who cultivate acquaintances and mental agreement, and who, knowing and enjoying their own likemindedness, are able to work together for common ends."

Lecture-Demonstration vs. Laboratory Method

By F. A. Riedel, Supervisor Biology Instruction in Training School, Kansas State Teachers College of Pittsburg.

The use of the laboratory method in the sciences is now so general and the method has been used for so many years that one would be shocked to learn that its value could be questioned. And yet in recent years there have been made studies which challenge attention as to the effectiveness, at least for high school students, of individual experimentation as it is customarily conducted. Research along these lines has been going on here and there since 1911. A summary of the leading investigations in comparing demonstration and individual methods has been reported in several science methods publications.* All of the researches attempted at least to measure the amount of subject-matter remembered; a very few tried also to measure certain other phases of learning, such as ability to observe, ability to apply the ideas to new situations, and to solve problem situations. The researches reported up to this year constitute the first type or phase in the general investigation. More recently two other types of research have been made. The second has been made to discover what is gained in "laboratory resourcefulness" and in the ability to set up and solve scientific problems within the given field of science, and to form correct judgements in the field studied. The third type of study has been less scientific—subjective expression of the reaction of students to these methods, in some detail. These three

*See School Science and Mathematics, May and June 1927, and General Science Quarterly, May 1927. The June number of the former journal also has excellent criticisms of these researches by F. D. Curtis.

types of studying the effectiveness of the two methods are not entirely separate and clean-cut, but they overlap somewhat in some of the investigations.

The seriousness of the conditions in science teaching will be realized when it is known that certain persons have so minimized the value of continuing the use of the laboratory that it is in a fair way to abandonment in the high school unless it can be shown beyond a shadow of doubt that its continuation is justifiable. The writer's experience with this controversy has disclosed the fact that such investigations are exceedingly difficult, and that both the experimental method and the statistical treatment of the results are subject to many and grave errors. So whatever is said either in the reported studies or in this article must be accepted with a full "measure of salt" and not as the last word on the subject. What is said, however, is offered with the greatest care to be accurate and to leave a fair impression of the true situation. Notwithstanding the errors pointed out in the reported studies there has been a rather sincere effort to use scientific methods and precautions in arriving at the conclusions. For instance, Dr. W. D. Carpenter, in comparing the demonstration and laboratory methods, used about 1500 cases, used objective tests, and applied thoroughly modern statistical analysis to his results. His study covered portions of high school chemistry. Dr. Horton in a second type of study in the same science investigated the effectiveness of learning subject matter, laboratory manipulation, problem solving, and the correctness and amount of "chemical judgment"—all these phases—using several hundred students and covering a period of two years. A third type of study,* conducted by the present writer, dealt both with special phases of limited portions of chemistry and physics, respectively, and included an attempt to get the student to analyze his attitude toward the two methods. About one thousand cases were used in this study, which is not yet complete.

The writer has for the past several years used his opportunities for observing the teaching of science in schools of Colorado, Kansas, and New York. In visiting classes he has been privileged to question students with reference to their aims and motives in experiments under way, and to attend lecture demonstrations to notice what factors seemed to contribute to the best learning or to certain phases of learning in each case. One may without the use of any scientific technique easily perceive factors at work which might explain the advantages and drawbacks of these two methods. For instance, in the demonstration, there are the personality, voice, questioning, clearness of diction, organization of subject matter, opportunities for close observation, size of apparatus, opportunities for discussion and questions. Any one of these factors might well cause a demonstration to yield its greatest values or have its worst disadvantages. Sometimes the lecture demon-

*Research in three large high schools in Kansas, 1928, done while connected with education department at University of Kansas, co-operating with Bureau of Educational Research.

stration is too much a fixed speech—at other times it is rich in thought questions, opportunities for individuals to interrupt with questions, and for pupils to come up close to see, or themselves to repeat a portion of the experiment. Sometimes "toy" apparatus is used—at others "real" commercial apparatus appealing to the practical-minded student as thoroughly worthwhile and reliable.

Again as we watch the demonstration we see times of the most intense attention, and at other times a student has gone "wool gathering," or he is absorbed in a specimen being passed and has lost the new things the instructor is doing or telling.

Quite as many factors or more tend to work for or against success in the laboratory. The experiment may precede or follow the text or the teacher's introduction or class discussion; directions may or may not be read before the student comes to class; the experiment may or may not be introduced during the first of the period by a brief demonstration, explanations, cautions, etc.; the directions vary greatly, oral, written, brief or lengthy and involved; direction sheets may require mere numbers and words or require much student writing. The apparatus may be superior, abundant, lifelike and convincing, or the reverse; the period may be one hour or two hours; the students may work singly or in groups; all on one experiment or all on different ones; the work may be mere verification or be discovery or be projects to work out. These and many other factors suggest that we have no inflexible standard procedure for the lecture demonstration nor for the individual laboratory work. Hence the grave error in reporting researches without providing adequate descriptions of the laboratory, apparatus, grouping, assistance, assignments, text, manual and discussions and any other facts that may throw light on the outcome. However, there is a fairly well established standard. This standard is assumed in the following discussion.

Now to return to the results of the leading investigations. Here will be stated briefly a list of tentative conclusions based on all that has been reported to date.

1. As for written tests of the usual sort, whether more or less objective, the student gets about the same score or grade whether he has done his experiment or had it done for him. This can be taken to mean that whether or not he understands what he writes in a test, he can reproduce in words (i. e., by sheer verbal memory) about the same by either method.

2. A test given several weeks or months later shows a slight superiority if the work was done in the laboratory. His "delayed retention" is increased.

Now if this ended the matter, we might justly conclude that the demonstration is the better method, because:

3. The demonstration method covers much more subject matter per hour; is better organized; saves apparatus duplication and loss; allows for running discussion and questions; obviates the necessity of expensive laboratory furniture and equipment, and very likely is most suitable to the less mature and capable pupils.

But in the second type of investigation, which is more comprehensive (covers more phases of learning), it is shown, in the case of one science, that:

4. There is a very definite gain from the laboratory method in ability to manipulate apparatus and materials.

5. There is a very outstanding gain in the ability to formulate problems and solve them independently when they are presented by the laboratory method.

6. There is a significant, tho not exceptionally high gain in " chemical judgment" (ability to think and understand in terms of the science, chemistry, here used).

Besides, in this particular study (Horton's) it is agreed by 87 per cent of the students that they prefer the laboratory to the demonstration method, having tried both.

Now in another more analytical study of the reactions to the two methods, we have the following contribution, which I believe is rich in its suggestiveness for the progressive teacher.

The following questions given just after a two or three-week comparison of the two methods as applied to physics, were answered by pupils and these answers analyzed to fit as faithfully as possible into the categories shown below. Sixty-one papers were selected at random in a class of about ninety.

The actual questions appended to an objective test in the subject matter of electricity follow:

This part is not a test.

The student is requested to co-operate by taking this sheet home and filling it out thoughtfully and frankly; return it the next school day to the instructor. While your name is not essential here, we will be glad to have you sign this.*

1. Of the two methods, the lecture-demonstration and the laboratory method, by which do you think you learned the most in this recent study of electricity? Why?

2. Which method do you find the more interesting? Why?

3. What are your greatest gains from the demonstration method? What if anything do you lose by this method?

4. What are your greatest gains from the laboratory method, where you do your own experiments? What if anything is the greatest drawback here?

5. All in all how do you rank the two methods, at least as far as electrical studies are concerned?

Any further remarks may be added here.

Student's name .....

Apparent discrepancies in the numerical results are due to repetition by the student, or to the student's "casting votes" equally to both methods on some item.

The findings, briefly, for the individual laboratory method are, as reported by the sixty-one pupils:

1. Remembered better, 21.
2. Understood better, 12.
3. More interesting, 29.
4. Learn more by experience, 19.
5. Emphasizes practical side, 12.
6. Laboratory method preferred on the whole, 30.
7. Laboratory preferred but demonstration more interestion, 3.
8. Laboratory more interesting, but demonstration preferred, 6.

Other significant comments in favor of the laboratory method are:

a. It develops self-confidence.
b. The self-activity relieves the monotony.
c. It gives actual experience with objects and apparatus.
d. It develops. responsibility and initiative.
e. It involves self-participation.
f. Some experiments are better observed.
g. It provides for individual needs.
h. It emphasizes the method to use.
i. It develops one's originality.
j. It compels facing problems and solving them.
k. It promotes co-operation between students (in pairs).
l. It yields greater confidence in the results.
m. It gives students opportunity to repeat parts if necessary.
n. It is easier to write up.
o. It holds attention better.
p. It gives opportunity to discover things.
q. It gives chance to play with apparatus.
r. It adds a feeling of reality.
s. We can go into a thing as deeply as we care to.

The criticisms of the laboratory method are:

a. It may give the wrong idea.
b. Time is lost in setting up apparatus.
c. It is too slow.
d. The teacher may not be available just when needed.
e. The essential ideas may not be derived.
f. Not suited to difficult experiments.
g. Not suited where expensive apparatus is needed.
h. Fails to get the fine points.
i. Not time enough really to carry out the experiment.
j. Breakage and apparatus are expensive.
k. Directions too cut and dried; little originality.
l. Pupils get results from other students; cheating.
m. Pupils don't like to write up experiments.
n. Directions in manual not always understandable.
o. Worry as to the correct outcome of experiments.

The comments on the demonstration method follow:

1. Better explanations, 16.
2. Better understanding, 11.
3. More interesting, 11.
4. Covers more ground, 8.
5. Advantages of teachers' experience and comments, 7.
6. Supplements understanding, 11.
7. Demonstration preferred; laboratory more interesting, 9.
8. Demonstration preferred, 30.
9. Each method supplements the other, 17.
10. Saves time, 8.

Other remarks distribute themselves over these:

a. Mathematical parts handled better.
b. Student can see better.
c. Work more likely to be correctly done.
d. Student can file written notes sooner.
e. More opportunity to ask questions.
f. Better for certain (e.g. difficult) experiments.
g. More or better selected detail.
h. Better attention to individual needs.
i. Easier to write up.
j. Avoids difficulties with apparatus.
k. Standardizes ideas.
l. Not so much thinking required of student.
m. Economizes apparatus.
n. Remembered better.
o. More opportunity for running discussion.
p. Chief ideas stand out better.
q. Teacher sets example of correct use of apparatus.
r. Gives teacher chance to show how to take notes.
s. Better organization of facts.
t. Avoids loss and breakage of apparatus.
u. Gives more surprises and new ideas.

But against the demonstration we are told:

a. Not doing one's own experiment.
b. Loss of experience.
c. Not getting first-hand experience.
d. Cannot always see what is going on.
e. Do not always hear everything.
f. Requires more effort to attend (attention).
g. Not as easily or as well remembered.
h. Not enough opportunity to ask questions.
i. May go over one's head.
j. Value depends on content and method.
k. No gain in skill with laboratory materials.

What a good subject for debate! From these findings it is apparent that the question is not, Which is the better or more effective method? but rather, for a given phase or type of learning—all things considered, should this day's work be given to the purely lecture-demonstration method, to the individual laboratory method, or to a combination of both, or to neither? After all, what we want is a child growing in his understanding and appreciation of science, in its essential facts, in its spirit, in its continued spontaneous use in daily

life. The next job for research is to find out under what combinations and circumstances a given method may best achieve the main purposes for developing that idea or skill; what kind of demonstration, what kind of laboratory work will achieve the desired end; what order and relation should exist between these methods; what experiments best lend themselves to a given procedure. This is not answerable by reflection alone but only by careful testing out.*

*The best guide available for methods of research in education is McCall's How to Experiment in Education. The School Science and Mathematics and the Journal of Educational Research supplement the text by providing actual illustrations of classroom research technique.

Administration in Smaller Kansas High Schools

Supt. W. L. Rambo, Arma, Kansas

The following article is a general, although very limited, review of a section of a dissertation entitled, "Salaries, Training and Tenure of Administrators and Teachers in the Smaller Accredited High Schools in Kansas," which was submitted to the Graduate Faculty of the University of Chicago in candidacy for the degree Master of Arts in September 1927.

All data presented are for the school year 1926-27 and were secured from the annual reports of the individual schools to the State Superintendent of Public Instruction. There are certain conditioning factors such as: experience, degree of success or failure, personality, general attitude, improvement in service, per capita wealth, attitude of the people of the community, cost of living, economic conditions, and supply and demand that always affect salaries paid public servants in any community. It may be, too, that the employment of both husband and wife in the same school affects the prices paid. Data pertinent to these factors were not available and could not be considered.

An arbitrary distinction between administrators and teachers was made by adhering strictly to the official designations given individuals on the reports to the state superintendent. Accordingly, individuals were classed as administrators regardless of the amount or character of teaching done by them in addition to administrative or supervisory duties. An objection might be raised because of the fact that many that are classed as administrators are in reality only "chief teachers" with few administrative or supervisory duties or powers delegated to them. The objection is valid only in so far as it affects one group more than the others but indications are that such is not the case. Very few of these included do no teaching.

The salaries are classified on a basis of the number of high school teachers employed. This method of classification was more practicable than a classification on a basis of either enrollment or population. Some of the schools did not report enrollment figures and district populations were not available. Schools with five or less teachers are assigned to Group I, while Group II is composed of schools of more

than five teachers. The salaries were further classified according to training and tenure. No classification as to sex was made because the administrators in these schools are predominately men.

There is a large variability in the salaries paid administrators in both types of schools. A probable contributing cause is that in some schools a real executive is employed, while in others the person classed as the administrator is looked upon merely as a "chief teacher," with perhaps a few added responsibilities in the management of the routine of the school.

Quartile Distribution of Salaries of Administrators

Administrators	Size of Teacher Groups I	II	Total
Superintendents			
Q1	$1,875	$2,163	$2,045
Median	2,072	2,519	2,252
Q3	2,267	2,964	2,534
Q	196	401	245
Rural High School Principals			
Q1	$1,979	$2,210	$2,032
Median	2,103	2,392	2,202
Q3	2,273	2,548	2,412
Q	147	169	190

In making a study of training, it was considered best to classify individuals into four classes, each indicating a level of preparation above high school graduation. The following classes were chosen: Those holding master's degrees, those reporting bachelor's degrees with additional training but not holding master's degrees, those having bachelor's degrees with no additional training, and those with no degrees. No attempt was made to distinguish between the various types of degrees. However, the original data showed that master's degrees included both master of arts and master of science. Five different bachelor's degrees were reported. They were bachelor of arts, bachelor of science, bachelor of philosophy, bachelor of pedagogy and bachelor of music. No attempt was made to ascertain the amount of specific training of individuals that would especially qualify them for administrative positions in these public high schools.

Percentage Distribution of Training Levels of Administrators

Administrators	Per Cents in Training Levels I	II	Total
Superintendents			
Master's Degree	2.5	8.6	5.3
More than Bachelor's	17.4	20.0	18.6
Bachelor's Degree	74.4	62.9	69.0
No Degree	5.8	8.6	7.1
Rural High School Principals			
Master's Degree	2.2	7.2	3.7
More than Bachelor's	15.1	20.5	16.8
Bachelor's Degree	73.0	62.7	69.8
No Degree	9.7	9.6	9.7

Quartile Distribution of Salaries of Administrators, According To Training Levels Above High School Graduation.

Administrators	Size of Teacher Groups I			II			Total
	A. M. or M. S.	More than A. B.	A. B.	No Degree	A. M. or M. S.	More than A. B.	A. B.	No Degree	
Superintendents									
Q1	*	$1,925	$1,855	$1,488	$2,225	$2,208	$2,281	$2,413	$2,045
Median	$2,150	2,175	2,170	2,017	2,525	2,475	2,520	2,625	2,252
Q3	*	2,275	2,268	2,075	2,775	2,792	2,656	3,038	2,534
Q	*	175	207	294	275	292	188	313	245
Rural High School Principals--									
Q1	$2,033	$2,125	$1,896	$2,017	$2,225	$2,408	$2,160	$2,450	$2,032
Median	2,067	2,200	2,089	2,109	2,300	2,530	2,279	2,650	2,202
Q3	2,300	2,300	2,256	2,290	2,450	2,625	2,467	2,767	2,412
Q	134	88	180	137	113	109	154	158	190

*Number of cases too few to be of much significance.

Quartile Distribution in Years of Tenure of Administrators.

Administrators	Size of Teacher Groups I	II	Total
Superintendents			
Q1	1.8	2.1	1.9
Median	2.9	3.3	3.1
Q3	4.2	5.1	4.5
Q	1.2	1.5	1.3
Rural High School Principals			
Q1	1.7	1.8	1.7
Median	2.8	3.1	2.9
Q3	4.1	5.1	4.5
Q	1.2	1.7	1.4

Quartile Distribution of Salaries of Administrators. According to Number Years of Tenure

Administrators	Number of Years in This School 1	2	3	4	5	6	7	8 or more	Total
Superintendents									
Q1	$2,018	$2,011	$2,061	$2,075	$2,350	$2,175	$2,125	$2,350	$2,061
Median	2,192	2,213	2,288	2,263	2,550	2,525	2,650	2,600	2,284
Q3	2,454	2,531	2,515	2,458	2,700	2,775	3,038	2,775	2,555
Q	264	260	227	192	175	300	428	213	247
Rural High School Principals									
Q1	$1,975	$2,018	$2,091	$2,142	$2,225	$2,100	$2,325	$2,294	$2,095
Median	2,140	2,142	2,229	2,325	2,483	2,233	2,450	2,375	2,224
Q3	2,496	2,266	2,415	2,544	2,594	2,450	2,575	2,463	2,433
Q	261	124	162	201	185	175	125	169	169

The study revealed facts that justify the following conclusions:

1. The size of the school organization is a more important factor in determining salaries of administrators than either the amount of training or length of tenure.

2. Salaries do not increase proportionately nor continuously from year to year during the term of employment. Both medians and quartiles are subject to sharp fluctuations in either direction as the term of service increases.

3. The amount of training possessed by individuals should receive more serious consideration in determining salaries and salary increases. Otherwise, the baccalaureate degree level

is apt to be, in a large percentage of cases, the maximum as well as the minimum amount of training.

4. There is a very large annual turnover in the personnel of administrators in these schools. The original data showed that 27.2 per cent of superintendents and 34 per cent of rural high school principals reported were occupying their respective positions for the first time during the year.

5. A definite system of granting salary increases to individuals in these schools based primarily upon the degree of success achieved while in their respective positions is needed. This will tend to lengthen the terms of tenure which at present are too short.

6. Judged by the standard requirement of a baccalaureate degree, the individuals included in the study are well trained, but there are relatively few who hold higher degrees.

Observation also convinces one of the fact that more attention to completeness and accuracy should characterize the efforts of those charged with the responsibilty of making annual reports to the State Superintendent of Public Instruction.

A Proposed System of Finance for Kansas Schools

By Paul Hawkins, Class in Business Administration of Schools, Kansas State Teachers College of Pittsburg.

Reorganization of the present system of finance for its schools founded on the principles of equalization and stimulation, is one of the most needed things in the State of Kansas today. Under the present system, equal opportunity for all is impossible.

Under the proposed system, the minimum cost of a school is provided by the state and county, and the district is left to spend according to its ability and willingness.

All state taxes are to be administered by the state tax commission. The state apportions the money to the county units, and the counties to the local districts.

Attendance is encouraged as well as consolidation, by basing distribution on average attendance and number of teachers.

This system is not without its faults, but it is a step toward a goal that many states are already nearing. I have kept in mind that Kansas is primarily an agricultural state, and cannot depend a great deal on manufacturing and commercial industries for support.

I. SOURCES OF REVENUE.

1. State:
   a. An operative corporation tax.
   b. Personal income tax: 2 per cent on all income over $600 for single person, and $1200 for married person (with exemptions). This tax rate is to be progressive.

c. Business tax: 3½ per cent rate on net income derived from business carried on within the State. (The rate to be proportional rather than progressive.)

d. Inheritance tax.

e. Consumption tax: 10 per cent on all tobacco; perfumes whose value exceeds $2.00 per ounce, and fancy candies whose value exceeds $1.50 per pound.

f. Severance tax on minerals and oils. (Revenue from severance tax to go into the permanent school fund.)

2. County.

a. Property tax on all tangible property, levied exclusively at place where property is located, (exempting property in first and second class cities).

3. Local District.

a. Direct property tax on tangible property within the district.

II. Provisions.

1. The state shall provide $20.00 per pupil in average daily attendance in both elementary and high schools.

2. The county, exclusive of first and second class cities, shall furnish $20.00 per pupil in elementary schools, and $30.00 per pupil in high schools, on average daily attendance.

3. The district shall provide all money for capital outlay and the balance needed for current cost. (Note: The local district is to be stimulated rather than deprived of responsibility. An extremely poor district will receive special state aid.)

III. Distribution.

1. Distribution of state money on teacher basis—$350 per teacher in elementary grades and $250 per high school teacher. The remainder of each fund, if such exists, is to be apportioned on average daily attendance.

For an elementary school to receive full state aid, it must have no less than twelve pupils A. D. A. Districts having more than thirty pupils A. D. A. per teacher will, exclusive of the $350, receive additional state aid, apportioned on A. D. A.

Money from permanent school fund to be distributed on teacher unit basis, thirty pupils per unit A. D. A.

2. The county fund shall be distributed upon average daily attendance.

TEACHING.

"I had rather earn my living by teaching than in any other way. In my mind, teaching is not merely a life work, a profession, an occupation, a struggle: it is a passion. I love to teach. I love to teach as a painter loves to paint, as a musician loves to play, as a singer loves to sing, as a strong man rejoices to run a race. Teaching is an art—an art so great and so difficult to master that a man or woman can spend a long life at it, without realizing much more than his limitations and his mistakes, and his distance from the ideal. But the main aim of my happy days has been to become a good teacher, just as every good architect wishes to be a good architect, and every professional poet strives toward perfection."

WILLIAM LYON PHELPS